3. (amended) The method of claim 1 in which [one of the position values comprises a] the position-in-level value offset comprises [in the form of] a non-integral number.

4. (amended) The method of claim 3 in which the position-[with]in-level value comprises a [node-in-value level] node-in-level value identifying one node plus a floating-point number representing an offset of the position from that node.

5. The method of claim 1 further comprising

using the [hierarchy] position in the space to identify a focus of a user's view of the hierarchy.

6. (amended) A method comprising

dividing area on a display into subareas;

[displaying representations of nodes of a hierarchy in a space on a display, each node representation fully occupying a subspace within the space, and]

allocating [the space entirely to the subspaces.] nodes of a hierarchy of nodes respectively to each of the subareas;

displaying, in the area, a node representation for each allocated node, the node representation occupying the entire subarea to which the node is allocated; and

receiving an indication of an action to be taken, the indication being received at any arbitrary position within the subarea.

7. (amended) The method of claim 6 in which the nodes in the hierarchy are organized in levels [in the hierarchy] and at least some of the [space is] nodes of one level are [allocated among the levels so that one levelis] fully represented in a [dimension] direction of the display that corresponds to [changing] different levels, and at least some of the nodes of levels of the hierarchy above and below the one level are at least partially represented.

8. (amended) The method of claim 7 in which each of the levels is represented as a band of node representations in the [space] area, nodes represented in one band have a parent-child relationship with nodes represented in an adjacent band, and, within a band, the area [space] is [allocated] divided so that the [subspace of a parent] subarea allocated to a parent node has the same [dimension] extent along the band as the sum of [the dimensions of its children along the adjacent band] the extents of the subareas in the adjacent band that are allocated to the children of the parent node.

9. A method comprising

for a node in a hierarchy of nodes,

rendering a container associated with the node and a representation of information associated with the node, the container having dimensions that change with an amount of space dynamically allocated to the node based on a changing focus in the hierarchy, the representation having unchanging dimensions,

drawing the container and the representation on a display, and when the focus changes,

re-rendering the container with updated dimensions and drawing the container on the display,

and, without re-rendering, copying the rendered representation to a new location.

10. The method of claim 9 in which the drawn container indicates the node's position in the hierarchy and its relationship to nearby nodes.

11. The method of claim 10 in which the representation includes graphics or text or both.

12. (amended) A method comprising

receiving information indicating a displacement of a user input device within a two-dimensional frame of reference, and

translating an amount of indicated displacement in at least one of the dimensions to a rate of change of position in a hierarchy [position used to identify a focus of] corresponding to a user's [view] focus [of the hierarchy].

13. (amended) The method of claim 12 in which one dimension represents a depth in the hierarchy and the other dimension represents [position-within-level] position-in-level .

14. (Cancelled) The method of claim 12 in which one dimension represents a level depth in the hierarchy and the other dimension represents position-within-level.

15. (amended) A method comprising

displaying a representation of a portion of a hierarchy of nodes to a user,

[associating with each node an action to be performed by an application, the action being other than navigation of the hierarchy, and]

enabling a user to navigate in the displayed representation of the portion of the hierarchy by a first type of user-interface action and allowing, by a second type of user-interface action the selection of any currently represented node,

reporting each selected node to an application to invoke node-specific behavior in the application, the node specific application being other than generating a representation of the hierarchy, and the application being other than the graphical user interface used to represent the hierarchy; and

enabling a user to trigger the action associated with a displayed node of the hierarchy by invoking the node using a second type of user-interface action.

16. The method of claim 15 in which the first type of action comprises dragging.

17. (amended) The method of claim 15 in which the second type of action comprises clicking and releasing.

18. (amended) A method comprising

displaying a representation of a portion of a hierarchy of nodes,

providing a software emulation of a return-to-center input device for enabling a user to navigate the hierarchy,

in response to the user manipulating a non-return-to-center input device to indicate an intended manipulation of the emulation for navigating the hierarchy, treating the user's manipulation as a manipulation of the return-to-center input device.

19. The method of claim 18 in which the non-return-to-center input device comprises a computer mouse, trackball, or pad.

20. The method of claim 18 in which the return-to-center input device comprises a joystick.

21. The method of claim 18 in which the emulation includes rendering the device on a display.

22. The method of claim 18 in which the response to the user manipulation is to change a focus position in the hierarchy.

23. The method of claim 22 in which the focus position is changed by periodically adding a focus increment vector to a focus position, the focus increment vector being a function of the vector by which the emulated controller is displaced.

24. The method of claim 18 in which the user manipulating the non-return-to-center controller in a single dragging action enables the user to view an arbitrarily large hierarchy of nodes.

25. The method of claim 23 in which the function is nonlinear to permit the user to vary navigation velocity over a wide two-dimensional range.

26. (amended) A method comprising

at a client device, displaying information about a portion of a hierarchy of nodes, the portion changing as a focus position changes, [including a node at the top of a sub-hierarchy of the hierarchy],

[as a user's navigation causes sub-hierarchies to approach view in the displayed information,]fetching, from a server, as a result of no user interaction other than navigation, information about portions of the [sub-]hierarchy that [is] are approaching view, including information not previously fetched about child nodes of currently displayed nodes, and

representing each node as the displayed portion of the hierarchy changes to include the node.

27. (amended) A method comprising

receiving at a server a request from a client for information about a hierarchy [definition],

in response to the request, providing to the client information about only a portion but not all of the hierarchy [definition], the portion including references to information about [referencing] other portions of the hierarchy, and

determining the size of the portion to be provided to the client adaptively based on parameters for optimizing communication between the server and the client.

28. The method of claim 27 in which each of the portions comprises a sub-hierarchy of the hierarchy.

29. (cancelled) The method of claim 27 further comprising determining the size of the portion to be provided to the client adaptively based on parameters for optimizing communication between the server and the client.

30. The method of claim 27 in which the server automatically builds a hierarchy definition portion that is as near as possible in size to a given minimum portion size.

31. The method of claim 27 in which the server generates references to sub-hierarchies and includes them with definitions of nodes of the portion provided.

32. (amended) A web page comprising

an area that provides a navigational interface that permits continuous navigation, based on a user's continuous activation of a user interface device, of a hierarchy of nodes, the interface displaying information about a portion that is less than all of the hierarchy at one time, the portion changing apparently continuously in response to the user's continuous activation of the user interface device.

33. The web page of claim 32 in which the nodes comprise links to other web pages.

34. (amended) A web browser component comprising

software that provides a user interface window that permits continuous navigation based on a user's continuous activation of a user interface device, of a hierarchy of nodes, the interface window displaying information about a portion that is less than all of the hierarchy at one time, the portion changing apparently continuously in response to the user's continuous activation of the user interface device.

35. The component of claim 34 in which the nodes comprise links to web pages.

36. The component of claim 35 in which the window occupies less than 25% of the web page.

37. (amended) A user interface comprising

a [device] process that permits continuous non-discrete navigation of a hierarchy [for selecting from a hierarchy] of nodes and selection of any of the nodes currently displayed.

38. The user interface of claim 37 in which the hierarchy comprises a hierarchical function menu.

39. The user interface of claim 37 in which the hierarchy comprises a hierarchical file system.

40. The user interface of claim 37 in which the hierarchy comprises a document encoded in XML or an extension thereof.

41. The user interface of claim 37 in which the hierarchy comprises a hierarchical index constructed from a document, list, or table.

42. The user interface of claim 37 in which the hierarchy comprises an encoded hierarchy.

43. (amended) The user interface of claim 37 in which the [encoded] hierarchy comprises the Dewey Decimal System.

44. The user interface of claim 37 in which the hierarchy comprises categorized products.

45. The user interface of claim 37 in which the hierarchy comprises postal addresses or other location by geographic region.

46. The user interface of claim 37 in which the hierarchy comprises characters belonging to a character set to be selected for text entry.

47. The user interface of claim 37 in which the hierarchy comprises a corpus which is not hierarchical in its native form and upon which hierarchy has been imposed using a similarity-seeking technology.

48. (amended) A method comprising

displaying a portion that is less than all of a hierarchy at a browser,

enabling a user to navigate continuously through levels and nodes of the hierarchy based on a user's continuous activation of a user interface device, the portion that is displayed changing apparently continuously with the user's continuous activation of the user interface device, and

during navigation delivering portions of the hierarchy from a remote server to the browser in time to enable the continuous navigation.

REMARKS

Applicant's remarks, below, are preceded by quotations of the related comments of the examiner, in small, bold-faced type.